Atty. Dkt. No. 00CR002/KE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Appellant: Steffensmeier et al.

Title: METHOD AND APPARATUS FOR EXTENDING THE LIFE OF MATRIX ADDRESSED EMISSIVE DISPLAY DEVICES

Appl. No.: 09/648,830

Filing Date: 08/25/2000

Examiner: Nguyen, Kevin M.

Art Unit: 2629

Confirmation Number: 6297

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AMENDED BRIEF ON APPEAL

The Appeal Brief filed on September 8, 2006 was defective because the summary of the claimed subject matter failed to map each independent claim to the specification by page and line number and to the drawings, if any. The September 8, 2006 Appeal Brief has been amended to comply with this requirement. The Appeal Brief dated September 8, 2006 was filed with authorization to charge the $500.00 covering the 37 C.F.R. 41.20(b)(2) appeal fee to Deposit Account 18-1722. If this fee is deemed to be insufficient, authorization is hereby given to charge any deficiency (or credit any balance) to the undersigned deposit account 18-1722.

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REAL PARTY IN INTEREST

The real party in interest is Rockwell Collins Incorporated having a place of business in Cedar Rapids, Iowa.

RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences known to Appellants, the Appellants' legal representative, or assignee which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

STATUS OF CLAIMS

This is an appeal from the Office Action dated June 21, 2006, finally rejecting claims 1-20. Claims 1-20 are currently rejected and are being appealed.

STATUS OF AMENDMENTS

No Amendments have been filed subsequent to final rejection.

SUMMARY OF CLAIMED SUBJECT MATTER

The present invention relates to a method which can be used to reduce luminance decay of emissive elements 305 in a matrix addressed emissive display device 110. See Specification at page 1, lines 7-10.

The method includes generating control data corresponding to a static image 215 to be displayed on a matrix 210 of individually addressable emissive display elements 305. See Specification at page 3, lines 3-10. Drive signals are generated as a function of the control data, and are provided to the matrix 210 to thereby energize the corresponding emissive display elements 305 of the matrix 210 in order to display the static image 215 on the matrix 210. See

Specification at page 3, lines 3-10. The control data are altered substantially continuously in order to substantially continuously move the static image 215 on the matrix 210. See Specification at page 3, lines 3-10.

Conventional emissive elements of emissive display devices are subject to decay with usage. See Specification at page 2, lines 8-13. In particular, matrix emissive display devices which are used to continuously or frequently display static images will experience decay of the emissive elements more rapidly. See Specification at page 2, lines 8-13. Static images 215 will be retained on matrix 210 type emissive display devices 110 in time, due to luminance decay of the emissive elements. See Specification at page 2, lines 8-13.

A continuous and slow translation of the image remains unnoticeable to the viewer, but eliminates the need for particular emissive elements to be continuously "on" or at "full intensity." See Specification at page 9, lines 4-15. By avoiding maintaining emissive elements "on" or at "full intensity," decay of the emissive elements is significantly reduced. See Specification at page 5, lines 12-20.

Independent claim 1 is directed to a method of reducing luminance decay of emissive elements 305 in a matrix addressed emissive display device 110. See Specification at page 3, lines 3-10. The method includes generating in a graphics engine 130 control data corresponding to a static image 215 to be displayed and generating drive signals as a function of the control data in a drive circuit, wherein the control data defines an image origin of the static image 215 with respect to a display origin. See Specification at page 5, lines 12-27 and page 6, lines 1-8. The method further includes providing the drive signals to the matrix to thereby energize the

corresponding emissive display elements 305 of the matrix 210 in order to display the static image 215 on the matrix 210. See Specification at page 8, lines 1-5. The method also includes altering in the graphics engine 130 the control data, substantially continuously, such that the drive signals are substantially continuously altered to thereby substantially continuously move the static image 215 on the matrix 210 in a manner which is substantially undetectable to viewers of the display device 110, wherein the control data is altered by redefining the image origin of the static image 215 with respect to the display origin. See Specification at page 9, lines 6-10.

Independent claim 8 recites a matrix addressed emissive display device 110 which includes a matrix of individually addressable emissive display elements 305 (See Specification at page 3, lines 3-10), a graphics engine 130 adapted to generate control data corresponding to a static image 215 to be displayed on the matrix 210, and display drive circuitry 120 coupled to the graphics engine 130 which is configured to generate drive signals as a function of the control data. See Specification at page 5, lines 12-27 and page 6, lines 1-8. The drive signals being provided to the matrix 210 to thereby energize the corresponding emissive display elements 305 of the matrix 210 in order to display the static image 215 on the matrix 210. See Specification at page 8, lines 1-5. The graphics engine 130 is configured to alter the control data, substantially continuously, such that the drive signals are substantially continuously altered to thereby substantially continuously move the static image 215 on the matrix 210 in a manner which is substantially undetectable to viewers of the display device 110. See Specification at page 9, lines 6-10.

Independent claim 15 recites a matrix addressed emissive display device 110 . See Specification at page 3, lines 3-10. The display device 110 includes a matrix 210 of individually addressable emissive display elements 305 (See Specification at page 3, lines 3-10) and graphics means 130 for controlling the matrix 210 to display a static image 215 on the matrix 210 (See Specification at page 5, lines 12-27 and page 6, lines 1-8) and to substantially continuously move the static image 215 on the matrix 210 in a manner which is substantially undetectable to viewers of the display device 110. See Specification at page 9, lines 6-10. The graphic means 130 includes a graphic engine means for generating control data associated with the static image 215, the image having an image origin and wherein the graphics means 130 includes a display driver means for driving the display elements in response to the graphic engine means 130, wherein the graphic engine means 130 redefines the image origin to move the static image 215. See Specification at page 5, lines 12-27 and page 6, lines 1-8.

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

1. Whether claims 1-3, 5-10, 12-17, 19 and 20 are unpatentable under 35 U.S.C. § 103(a) over U.S. Patent No. 4,127,796 (Henderson), in view of U.S. Patent No. 5,821,917 (Cappels).

2. Whether claims 4, 11 and 18 are unpatentable under 35 U.S.C. § 103(a) over U.S. Patent No. 4,127,796 (Henderson), in view of U.S. Patent No. 5,821,917 (Cappels), in further view of U.S. Patent No. 6,369,851 (Marflak).

ARGUMENT

I. LEGAL STANDARDS

A. OBVIOUSNESS UNDER 35 U.S.C. § 103(a)

All of the claims have been rejected under 35 U.S.C. §103(a), which states:

> A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

35 U.S.C. § 103(a).

The legal standards under 35 U.S.C. § 103(a) are also well-settled. Obviousness under 35 U.S.C. § 103(a) is a legal conclusion involving four factual inquiries: 1) the scope and content of the prior art; 2) the differences between the claims and the prior art; 3) the level of ordinary skill in the pertinent art; and 4) secondary considerations, if any, of non-obviousness. See Graham v. John Deere Co., 383 U.S. 1, 148 U.S.P.Q. 459 (1966).

In proceedings before the Patent and Trademark Office (PTO), the Examiner bears the burden of establishing a *prima facie* case of obviousness based upon the prior art. In re Piasecki,

745 F.2d 1468, 1471-72, 223 U.S.P.Q. 785, 787-88 (Fed. Cir. 1984). A *prima facie* case of obviousness requires that the prior art reference or references teaches or suggests all of the claimed limitations. In re Royka, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974); "[The Examiner] can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references." In re Fritch, 972 F.2d 1260, 1265, 23 U.S.P.Q.2d 1780, 1783 (Fed. Cir. 1992).

II. REJECTION OF CLAIMS 1-3, 5-10, 12-17, 19 AND 20

In the Office Action, the Examiner rejected claims 1-3, 5-10, 12-17, 19 and 20 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,127,796 (Henderson), in view of U.S. Patent No. 5,821,917 (Cappels), stating:

> As to claim 1, Henderson teaches a method of reducing luminance decay of emissive elements in a matrix addressed emissive display device . . . the method comprising: generating control data . . . corresponding to a static image . . . to be displayed . . . wherein the control data defines an image origin . . . of the static image with respect to a display origin . . . .
>
> Accordingly, Henderson teaches all of the claimed limitation, except for the method comprising: generating/altering in a graphic engine or processor control data.
>
> However, Cappels teaches a related system and method of compensating for the effects of aging of the phosphors upon color accuracy in a CRT which comprises graphics engine, e.g., a host processor 10 and an internal processor 23 . . . .

Office Action at pages 2-3.

III. THE REJECTION OF CLAIMS 1-3, 5-10, 12-17, 19 AND 20 IS IMPROPER BECAUSE THE CITED REFERENCES FAIL TO TEACH OR SUGGEST AT LEAST ONE ELEMENT OF EACH OF THE REJECTED CLAIMS

A *prima facie* case of obviousness requires that the prior art reference or references teaches or suggests all of the claimed limitations. In re Royka, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974). As explained below, the Examiner's rejection of claims 1-3, 5-10, 12-17, 19 and 20 under 35 U.S.C. § 103(a) is improper because neither Henderson or Cappels alone or in combination, disclose, teach, or suggest the subject matter recited in independent claims 1, 8 and 15. Appellants respectfully traverse the rejection.

For simplicity and clarity purposes, Appellants' remarks are primarily focused on the rejections of the independent claims (i.e., claims 1, 8 and 15) outlined in the Office Action with the understanding that the dependent claims that depend from the independent claims are patentable for at least the same reasons (and in most cases other reasons) that the independent claims are patentable.

A. INDEPENDENT CLAIM 1

Henderson relates to a system that minimizes "a permanent and highly undesirable 'scar' along which the phosphorescent coating is damaged" in a cathode ray tube (CRT). (Henderson at col. 1, lines 29-31). Cappels relates to a system that "calculate[s] the amount of beam current necessary to compensate for color degradation of the cathode ray tube." (Cappels Abstract).

Henderson does not motivate, teach, or suggest the need for or any benefit of "a method of reducing luminance decay of emissive elements in a matrix addressed emissive display device" comprising "generating in a graphics engine control data corresponding to a static image to be displayed and generating drive signals as a function of the control data in a drive circuit," wherein "the control data defines an image origin of the static image with respect to a display

origin providing the drive signals to the matrix to thereby energize the corresponding emissive display elements of the matrix in order to display the static image on the matrix" and continuously "altering in the graphics engine the control data" to "move the static image on the matrix" wherein "the control data is altered by redefining the image origin of the static image with respect to the display origin," as recited in claim 1.

Henderson does not disclose, motivate, teach, or suggest the need for or any benefit of the use of a method to reduce luminance **decay**. Henderson only discloses a method to **prevent rapid damage** to the phosphorescent coating of a cathode ray tube. (Henderson at col. 1, lines 29-32). The method disclosed in Henderson relates to preventing the phosphorescent coating on a cathode ray tube from being **rapidly removed**. (Henderson at col. 1, lines 19-26). Whereas, claim 1 relates to reducing the **decay rate** of emissive elements (e.g., light emitting diode). In Henderson, the phosphorescent coating is rapidly removed or "burn in" by extensive electron beam bombardment. (Henderson at col. 1, lines 19-21). This electron beam bombardment can **damage** the cathode ray tube's phosphorescent coating in a **short time interval**. Whereas, claim 1 relates to reducing the **decay rate**, which is the process of **gradually over an extended time interval** becoming inferior.

As stated by the Examiner, Henderson does not disclose "the method comprising: generating/altering in a graphic engine or processor control data." See Office Action at page 3. Henderson does not disclose, motivate, teach, or suggest the need for or any benefit of the using control data to move the static image on the matrix. Henderson only discloses the use of an analog scheme for providing a triangular wave form to move the image. (Henderson at col. 1, lines 62-66).

Henderson does not disclose, motivate, teach, or suggest the need for or any benefit of utilizing the image origin to move the image and altering the control data according to a specific

process. Henderson only discloses the use of an arbitrary position that is not adjusted by using control data. (Henderson at col. 3, lines 26-28).

Cappels does not motivate, teach, or suggest the need for or any benefit of "a method of reducing luminance decay of emissive elements in a matrix addressed emissive display device" comprising "generating in a graphics engine control data corresponding to a static image to be displayed and generating drive signals as a function of the control data in a drive circuit," wherein "the control data defines an image origin of the static image with respect to a display origin providing the drive signals to the matrix to thereby energize the corresponding emissive display elements of the matrix in order to display the static image on the matrix" and continuously "altering in the graphics engine the control data" to "move the static image on the matrix" wherein "the control data is altered by redefining the image origin of the static image with respect to the display origin," as recited in claim 1.

Cappels does not disclose, motivate, teach, or suggest the need for or any benefit of the use of a system to **minimize luminance decay** in emissive elements in a matrix addressed emissive display device. Cappels only discloses a system for **compensating** for **detrimental effects relating to color accuracy**. (Cappels, col. 1, lines 20-22). Cappels only discloses the use of "corrected tristimulus values" to determine the "amount of beam current necessary to compensate for color degradation of the cathode ray tube." (Cappels Abstract). Whereas, claim 1 relates to **reducing** the **decay rate of emissive elements**, which is different from **compensating for detrimental effects relating to color accuracy**.

Cappels does not disclose, motivate, teach, or suggest the need for or any benefit of the using control data to move the static image on the matrix. Cappels only discloses the use of correction factors necessary to compensate for color degradation of the cathode ray tube. (Cappels Abstract). Cappels does not disclose, motivate, teach, or suggest the need for or any

benefit of utilizing the image origin to move the image and altering the control data according to a specific process.

Appellants respectfully submit that there is no motivation, teaching, or suggestion to combine the references in the manner asserted in the Office Action because Henderson in combination with Cappels does not disclose, teach or suggest using "a method of reducing luminance decay of emissive elements in a matrix addressed emissive display device" comprising "generating in a graphics engine control data corresponding to a static image to be displayed and generating drive signals as a function of the control data in a drive circuit," wherein "the control data defines an image origin of the static image with respect to a display origin providing the drive signals to the matrix to thereby energize the corresponding emissive display elements of the matrix in order to display the static image on the matrix" and continuously "altering in the graphics engine the control data" to "move the static image on the matrix" wherein "the control data is altered by redefining the image origin of the static image with respect to the display origin."

Appellants respectfully submit that the subject matter recited in independent claim 1 and the claims which are dependent thereon, considered as a whole, would not have been obvious to a person of skill in the art and are patentable. Accordingly, Appellants request withdrawal of the rejection of the claims under 35 U.S.C. § 103(a).

B. INDEPENDENT CLAIM 8

Henderson relates to a system that minimizes "a permanent and highly undesirable 'scar' along which the phosphorescent coating is damaged" in a cathode ray tube (CRT). (Henderson at col. 1, lines 29-31). Cappels relates to a system that "calculate[s] the amount of beam current necessary to compensate for color degradation of the cathode ray tube." (Cappels Abstract).

Henderson does not motivate, teach, or suggest the need for or any benefit of "a matrix addressed emissive display device" comprising "a matrix of individually addressable emissive display elements; a graphics engine adapted to generate control data corresponding to a static image to be displayed on the matrix; display drive circuitry coupled to the graphics engine and adapted to generate drive signals as a function of the control data, the drive signals being provided to the matrix to thereby energize the corresponding emissive display elements of the matrix in order to display the static image on the matrix" wherein the graphics engine continuously "alters the control data" to move the static image on the matrix, as recited in claim 8.

Henderson does not disclose, motivate, teach, or suggest the need for or any benefit of the use of a device to reduce luminance **decay**. Henderson only discloses a device that **prevents rapid damage** to the phosphorescent coating of a cathode ray tube. (Henderson at col. 1, lines 29-32). The device disclosed in Henderson relates to preventing the phosphorescent coating on a cathode ray tube from being **rapidly removed**. (Henderson at col. 1, lines 19-26). Whereas, claim 8 relates to reducing the **decay rate** of emissive elements (e.g., light emitting diode). In Henderson, the phosphorescent coating is rapidly removed or "burn in" by extensive electron beam bombardment. (Henderson at col. 1, lines 19-21). This electron beam bombardment can **damage** the cathode ray tube's phosphorescent coating in a **short time interval**. Whereas, claim 8 relates to reducing the **decay rate**, which is the process of **gradually over an extended time interval** becoming inferior.

As stated by the Examiner, Henderson does not disclose a device that utilizes a graphic engine to generate or alter an image. See Office Action at page 2-3. Henderson does not disclose a graphic engine. Henderson only discloses the use of an analog scheme for providing a triangular wave form to move the image. (Henderson at col. 1, lines 62-66). Henderson does not disclose, motivate, teach, or suggest the need for or any benefit of utilizing a "display drive

circuitry coupled to the graphics engine." Henderson only discloses the use of an analog scheme for providing a triangular wave form to move the image. (Henderson at col. 1, lines 62-66).

Henderson does not disclose, motivate, teach, or suggest the need for or any benefit of utilizing the image origin to move the image and altering the control data according to a specific process. Henderson only discloses the use of an arbitrary position that is not adjusted by using control data. (Henderson at col. 3, lines 26-28).

Cappels does not motivate, teach, or suggest the need for or any benefit of "a matrix addressed emissive display device" comprising "a matrix of individually addressable emissive display elements; a graphics engine adapted to generate control data corresponding to a static image to be displayed on the matrix; display drive circuitry coupled to the graphics engine and adapted to generate drive signals as a function of the control data, the drive signals being provided to the matrix to thereby energize the corresponding emissive display elements of the matrix in order to display the static image on the matrix" wherein the graphics engine continuously "alters the control data" to move the static image on the matrix, as recited in claim 8.

Cappels does not disclose, motivate, teach, or suggest the need for or any benefit of the use of a system to **minimize luminance decay** in emissive elements in a matrix addressed emissive display device. Cappels only discloses a system for **compensating** for **detrimental effects relating to color accuracy**. (Cappels, col. 1, lines 20-22). Cappels only discloses the use of "corrected tristimulus values" to determine the "amount of beam current necessary to compensate for color degradation of the cathode ray tube." (Cappels Abstract). Whereas, claim 8 relates to **reducing** the **decay rate of emissive elements**, which is different from **compensating for detrimental effects relating to color accuracy**.

Cappels does not disclose, motivate, teach, or suggest the need for or any benefit of the using control data to move the static image on the matrix. Cappels only discloses the use of correction factors necessary to compensate for color degradation of the cathode ray tube. (Cappels Abstract). Cappels does not disclose, motivate, teach, or suggest the need for or any benefit of utilizing the image origin to move the image and altering the control data according to a specific process.

Appellants respectfully submit that there is no motivation, teaching, or suggestion to combine the references in the manner asserted in the Office Action because Henderson in combination with Cappels does not disclose, teach or suggest using "a matrix addressed emissive display device" comprising "a matrix of individually addressable emissive display elements; a graphics engine adapted to generate control data corresponding to a static image to be displayed on the matrix; display drive circuitry coupled to the graphics engine and adapted to generate drive signals as a function of the control data, the drive signals being provided to the matrix to thereby energize the corresponding emissive display elements of the matrix in order to display the static image on the matrix" wherein "the graphics engine alters the control data, substantially continuously, such that the drive signals are substantially continuously altered to thereby substantially continuously move the static image on the matrix in a manner which is substantially undetectable to viewers of the display device."

Appellants respectfully submit that the subject matter recited in independent claim 8 and the claims which are dependent thereon, considered as a whole, would not have been obvious to a person of skill in the art and are patentable. Accordingly, Appellants request withdrawal of the rejection of the claims under 35 U.S.C. § 103(a).

C. INDEPENDENT CLAIM 15

Henderson relates to a system that minimizes "a permanent and highly undesirable 'scar' along which the phosphorescent coating is damaged" in a cathode ray tube (CRT). (Henderson at col. 1, lines 29-31). Cappels relates to a system that "calculate[s] the amount of beam current necessary to compensate for color degradation of the cathode ray tube." (Cappels Abstract).

Henderson does not motivate, teach, or suggest the need for or any benefit of "a matrix addressed emissive display device" comprising "a matrix of individually addressable emissive display elements; graphics means for controlling the matrix to display a static image on the matrix" wherein the graphics means "substantially continuously move[s] the static image on the matrix in a manner which is substantially undetectable to viewers of the display device," wherein the graphic means "includes a graphic engine means for generating control data associated with the static image, the image having an image origin and wherein the graphics means includes a display driver means for driving the display elements in response to the graphic engine means, wherein the graphic engine means redefines the image origin to move the static image," as recited in claim 15.

Henderson does not disclose, motivate, teach, or suggest the need for or any benefit of the use of a device to reduce luminance **decay**. Henderson only discloses a device that **prevents rapid damage** to the phosphorescent coating of a cathode ray tube. (Henderson at col. 1, lines 29-32). The device disclosed in Henderson relates to preventing the phosphorescent coating on a cathode ray tube from being **rapidly removed**. (Henderson at col. 1, lines 19-26). Whereas, claim 15 relates to reducing the **decay rate** of emissive elements (e.g., light emitting diode). In Henderson, the phosphorescent coating is rapidly removed or "burn in" by extensive electron beam bombardment. (Henderson at col. 1, lines 19-21). This electron beam bombardment can **damage** the cathode ray tube's phosphorescent coating in a **short time interval**. Whereas, claim

15 relates to reducing the **decay rate**, which is the process of **gradually over an extended time interval** becoming inferior.

As stated by the Examiner, Henderson does not disclose a device "for a CRT [cathode ray tube] comprising: a graphic engine or processor generating/altering control data." See Office Action at page 5. Henderson does not disclose a graphic engine. Henderson only discloses the use of an analog scheme for providing a triangular wave form to move the image. (Henderson at col. 1, lines 62-66). Henderson does not disclose, motivate, teach, or suggest the need for or any benefit of utilizing a "display drive means for driving the display elements in response to the graphic engine means." Henderson only discloses the use of an analog scheme for providing a triangular wave form to move the image. (Henderson at col. 1, lines 62-66).

Henderson does not disclose, motivate, teach, or suggest the need for or any benefit of utilizing the image origin to move the image and altering the control data according to a specific process. Henderson only discloses the use of an arbitrary position that is not adjusted by using control data. (Henderson at col. 3, lines 26-28).

Cappels does not motivate, teach, or suggest the need for or any benefit of "a matrix addressed emissive display device" comprising "a matrix of individually addressable emissive display elements; graphics means for controlling the matrix to display a static image on the matrix" wherein the graphics means "substantially continuously move[s] the static image on the matrix in a manner which is substantially undetectable to viewers of the display device," wherein the graphic means "includes a graphic engine means for generating control data associated with the static image, the image having an image origin and wherein the graphics means includes a display driver means for driving the display elements in response to the graphic engine means, wherein the graphic engine means redefines the image origin to move the static image," as recited in claim 15.

Cappels does not disclose, motivate, teach, or suggest the need for or any benefit of the use of a system to **minimize luminance decay** in emissive elements in a matrix addressed emissive display device. Cappels only discloses a system for **compensating** for **detrimental effects relating to color accuracy**. (Cappels, col. 1, lines 20-22). Cappels only discloses the use of "corrected tristimulus values" to determine the "amount of beam current necessary to compensate for color degradation of the cathode ray tube." (Cappels Abstract). Whereas, claim 15 relates to **reducing** the **decay rate of emissive elements**, which is different from **compensating for detrimental effects relating to color accuracy**.

Cappels does not disclose, motivate, teach, or suggest the need for or any benefit of the using control data to move the static image on the matrix. Cappels only discloses the use of correction factors necessary to compensate for color degradation of the cathode ray tube. (Cappels Abstract). Cappels does not disclose, motivate, teach, or suggest the need for or any benefit of utilizing the image origin to move the image and altering the control data according to a specific process.

Appellants respectfully submit that there is no motivation, teaching, or suggestion to combine the references in the manner asserted in the Office Action because Henderson in combination with Cappels does not disclose, teach or suggest using "a matrix addressed emissive display device" comprising "a matrix of individually addressable emissive display elements; graphics means for controlling the matrix to display a static image on the matrix" wherein the graphics means "substantially continuously move[s] the static image on the matrix in a manner which is substantially undetectable to viewers of the display device," wherein the graphic means "includes a graphic engine means for generating control data associated with the static image, the image having an image origin and wherein the graphics means includes a display driver means for driving the display elements in response to the graphic engine means, wherein the graphic engine means redefines the image origin to move the static image."

Appellants respectfully submit that the subject matter recited in independent claim 15 and the claims which are dependent thereon, considered as a whole, would not have been obvious to a person of skill in the art and are patentable. Accordingly, Appellants request withdrawal of the rejection of the claims under 35 U.S.C. § 103(a).

IV. DEPENDENT CLAIMS 5-7, 12-14, 19 AND 20 ARE FURTHER PATENTABLE OVER THE CITED ART FOR REASONS IN ADDITION TO THOSE SET FORTH ABOVE

Dependent claims 5-7, 12-14, 19 and 20 each recite a method or device that generates control data for each emissive display element in the matrix based upon its respective position relative to the emissive display element to which the image origin has been assigned. Regarding this claim limitation, the Examiner stated that focused spot 28 disclosed in Henderson covered this limitation.

Henderson does not disclose, motivate, teach, or suggest the need for or any benefit of generating control data for each emissive display element in the matrix based upon its respective position relative to the emissive display element to which the image origin has been assigned. Henderson only discloses the use of an arbitrary position that is not adjusted by using control data. (Henderson at col. 3, lines 26-28).

Appellants respectfully submit that the subject matter recited in dependent claims 5-7, 12-14, 19 and 20, considered as a whole, would not have been obvious to a person of skill in the art and are patentable. Accordingly, Appellants request withdrawal of the rejection of the claims under 35 U.S.C. § 103(a).

V. REJECTION OF CLAIMS 4, 11 AND 18

In the Office Action, the Examiner rejected claims 4, 11 and 18 under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 4,127,796 (Henderson), in view of U.S. Patent No. 5,821,917 (Cappels), and in further view of U.S. Patent No. 6,369,851 (Marflak), stating:

> As to claims 4, 11 and 18, the combination of Henderson and Cappels teaches all of the claimed limitation of 1, 8 and 15, except wherein a field effect display matrix.
>
> However, Marflak teaches a flat cathode ray rube 308 (see fig. 3) corresponding to a field effect display matrix.
>
> It would have been obvious to a person of ordinary skill in the art at the time the invention was made to implement other application display devices, e.g., flat cathode ray tube corresponding to the field effect display matrix as taught by Marflak for the intended use of CRT of Henderson and Cappels, because this would minimize burn lines on the field effect display matrix (see the title of Marflak).

Office Action at page 7.

VI. THE REJECTION OF DEPENDENT CLAIMS 4, 11 AND 18 IS IMPROPER BECAUSE THE CITED REFERENCES FAIL TO TEACH OR SUGGEST AT LEAST ONE ELEMENT OF EACH OF THE REJECTED CLAIMS

A *prima facie* case of obviousness requires that the prior art reference or references teaches or suggests all of the claimed limitations. In re Royka, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974). As explained below, the Examiner's rejection of claims 4, 11 and 18 under 35 U.S.C. § 103 is improper because neither Henderson, Cappels or Marflak alone or in combination, disclose, teach, or suggest the subject matter recited in independent claims 4, 11 and 18. Appellants respectfully traverse the rejection.

A. DEPENDENT CLAIM 4

Henderson relates to a system that minimizes "a permanent and highly undesirable 'scar' along which the phosphorescent coating is damaged" in a cathode ray tube (CRT). (Henderson at col. 1, lines 29-31). Cappels relates to a system that "calculate[s] the amount of beam current necessary to compensate for color degradation of the cathode ray tube." (Cappels Abstract). Marflak relates to a system that "display[s] a 16:9 aspect ratio signal on a 4:3 aspect ratio television." (Marflak at col. 3, lines 49-50).

Henderson does not motivate, teach, or suggest the need for or any benefit of "a method of reducing luminance decay of emissive elements in a matrix addressed emissive display device" comprising "generating in a graphics engine control data corresponding to a static image to be displayed and generating drive signals as a function of the control data in a drive circuit," wherein "the control data defines an image origin of the static image with respect to a display origin providing the drive signals to the matrix to thereby energize the corresponding emissive display elements of the matrix in order to display the static image on the matrix" and continuously "altering in the graphics engine the control data" to "move the static image on the matrix" wherein "the control data is altered by redefining the image origin of the static image with respect to the display origin" and wherein "providing the drive signals to the matrix further

comprises providing the drive signals to a field effect display matrix in order to display the static image on the matrix," as recited in claim 4.

Henderson does not disclose, motivate, teach, or suggest the need for or any benefit of the use of a method to reduce luminance **decay**. Henderson only discloses a method to **prevent rapid damage** to the phosphorescent coating of a cathode ray tube. (Henderson at col. 1, lines 29-32). The method disclosed in Henderson relates to preventing the phosphorescent coating on a cathode ray tube from being **rapidly removed**. (Henderson at col. 1, lines 19-26). Whereas, claim 4 relates to reducing the **decay rate** of emissive elements (e.g., light emitting diode). In Henderson, the phosphorescent coating is rapidly removed or "burn in" by extensive electron beam bombardment. (Henderson at col. 1, lines 19-21). This electron beam bombardment can **damage** the cathode ray tube's phosphorescent coating in a **short time interval**. Whereas, claim 4 relates to reducing the **decay rate**, which is the process of **gradually over an extended time interval** becoming inferior.

As stated by the Examiner, Henderson does not disclose "the method comprising: generating/altering in a graphic engine or processor control data." See Office Action at page 3. Henderson does not disclose, motivate, teach, or suggest the need for or any benefit of the using control data to move the static image on the matrix. Henderson only discloses the use of an analog scheme for providing a triangular wave form to move the image. (Henderson at col. 1, lines 62-66).

Henderson does not disclose, motivate, teach, or suggest the need for or any benefit of utilizing the image origin to move the image and altering the control data according to a specific process. Henderson only discloses the use of an arbitrary position that is not adjusted by using control data. (Henderson at col. 3, lines 26-28).

As stated by the Examiner, Henderson does not disclose, motivate, teach, or suggest "a field display matrix." See Office Action page 7. Henderson only discloses the use of a cathode ray tube. (Henderson Abstract).

Cappels does not motivate, teach, or suggest the need for or any benefit of "a method of reducing luminance decay of emissive elements in a matrix addressed emissive display device" comprising "generating in a graphics engine control data corresponding to a static image to be displayed and generating drive signals as a function of the control data in a drive circuit," wherein "the control data defines an image origin of the static image with respect to a display origin providing the drive signals to the matrix to thereby energize the corresponding emissive display elements of the matrix in order to display the static image on the matrix" and continuously "altering in the graphics engine the control data" to "move the static image on the matrix" wherein "the control data is altered by redefining the image origin of the static image with respect to the display origin" and wherein "providing the drive signals to the matrix further comprises providing the drive signals to a field effect display matrix in order to display the static image on the matrix," as recited in claim 4.

Cappels does not disclose, motivate, teach, or suggest the need for or any benefit of the use of a system to **minimize luminance decay** in emissive elements in a matrix addressed emissive display device. Cappels only discloses a system for **compensating** for **detrimental effects relating to color accuracy**. (Cappels, col. 1, lines 20-22). Cappels only discloses the use of "corrected tristimulus values" to determine the "amount of beam current necessary to compensate for color degradation of the cathode ray tube." (Cappels Abstract). Whereas, claim 4 relates to **reducing** the **decay rate of emissive elements**, which is different from **compensating for detrimental effects relating to color accuracy**.

Cappels does not disclose, motivate, teach, or suggest the need for or any benefit of the using control data to move the static image on the matrix. Cappels only discloses the use of correction factors necessary to compensate for color degradation of the cathode ray tube. (Cappels Abstract). Cappels does not disclose, motivate, teach, or suggest the need for or any benefit of utilizing the image origin to move the image and altering the control data according to a specific process.

As stated by the Examiner, Cappels does not disclose, motivate, teach, or suggest "a field display matrix." See Office Action page 7.

Marflak does not motivate, teach, or suggest the need for or any benefit of "a method of reducing luminance decay of emissive elements in a matrix addressed emissive display device" comprising "generating in a graphics engine control data corresponding to a static image to be displayed and generating drive signals as a function of the control data in a drive circuit," wherein "the control data defines an image origin of the static image with respect to a display origin providing the drive signals to the matrix to thereby energize the corresponding emissive display elements of the matrix in order to display the static image on the matrix" and continuously "altering in the graphics engine the control data" to "move the static image on the matrix" wherein "the control data is altered by redefining the image origin of the static image with respect to the display origin" and wherein "providing the drive signals to the matrix further comprises providing the drive signals to a field effect display matrix in order to display the static image on the matrix," as recited in claim 4.

Marflak does not disclose, motivate, teach, or suggest the need for or any benefit of using a field effect display matrix. A field effect display matrix is a numerical display device in which a liquid-crystal cell is sandwiched between polarizers. The liquid-crystal cell is treated so that it normally rotates light 90°, but ceases to rotate light when an electric field is applied to it, altering the transmission of the device. The Examiner stated "Marflak teaches a flat cathode ray tube 308 (see fig. 3) corresponding to a field effect display matrix. See Office Action page 7. However, Appellants have reviewed Marflak and **are unable to determine where Marflak discloses a field effect display matrix**. Marflak only discloses a "CRT display system." (Marflak at col. 4, line 28).

Appellants respectfully submit that there is no motivation, teaching, or suggestion to combine the references in the manner asserted in the Office Action because Henderson in

combination with Cappels and/or Marflak does not disclose, teach or suggest using "a method of reducing luminance decay of emissive elements in a matrix addressed emissive display device" comprising "generating in a graphics engine control data corresponding to a static image to be displayed and generating drive signals as a function of the control data in a drive circuit," wherein "the control data defines an image origin of the static image with respect to a display origin providing the drive signals to the matrix to thereby energize the corresponding emissive display elements of the matrix in order to display the static image on the matrix" and continuously "altering in the graphics engine the control data" to "move the static image on the matrix" wherein "the control data is altered by redefining the image origin of the static image with respect to the display origin" and wherein "providing the drive signals to the matrix further comprises providing the drive signals to a field effect display matrix in order to display the static image on the matrix," as recited in claim 4.

Appellants respectfully submit that the subject matter recited in dependent claim 4, considered as a whole, would not have been obvious to a person of skill in the art and is patentable. Accordingly, Appellants request withdrawal of the rejection of the claim under 35 U.S.C. § 103(a).

B. DEPENDENT CLAIM 11

Henderson relates to a system that minimizes "a permanent and highly undesirable 'scar' along which the phosphorescent coating is damaged" in a cathode ray tube (CRT). (Henderson at col. 1, lines 29-31). Cappels relates to a system that "calculate[s] the amount of beam current necessary to compensate for color degradation of the cathode ray tube." (Cappels Abstract). Marflak relates to a system that "display[s] a 16:9 aspect ratio signal on a 4:3 aspect ratio television." (Marflak at col. 3, lines 49-50).

Henderson does not motivate, teach, or suggest the need for or any benefit of "a matrix addressed emissive display device" comprising "a matrix of individually addressable emissive

display elements; a graphics engine adapted to generate control data corresponding to a static image to be displayed on the matrix; display drive circuitry coupled to the graphics engine and adapted to generate drive signals as a function of the control data, the drive signals being provided to the matrix to thereby energize the corresponding emissive display elements of the matrix in order to display the static image on the matrix" wherein the graphics engine continuously "alters the control data" to move the static image on the matrix, and wherein "the matrix is a field effect display matrix," as recited in claim 11.

Henderson does not disclose, motivate, teach, or suggest the need for or any benefit of the use of a device to reduce luminance **decay**. Henderson only discloses a device that **prevents rapid damage** to the phosphorescent coating of a cathode ray tube. (Henderson at col. 1, lines 29-32). The device disclosed in Henderson relates to preventing the phosphorescent coating on a cathode ray tube from being **rapidly removed**. (Henderson at col. 1, lines 19-26). Whereas, claim 11 relates to reducing the **decay rate** of emissive elements (e.g., light emitting diode). In Henderson, the phosphorescent coating is rapidly removed or "burn in" by extensive electron beam bombardment. (Henderson at col. 1, lines 19-21). This electron beam bombardment can **damage** the cathode ray tube's phosphorescent coating in a **short time interval**. Whereas, claim 11 relates to reducing the **decay rate**, which is the process of **gradually over an extended time interval** becoming inferior.

As stated by the Examiner, Henderson does not disclose a device that utilizes a graphic engine to generate or alter an image. See Office Action at page 2-3. Henderson does not disclose a graphic engine. Henderson only discloses the use of an analog scheme for providing a triangular wave form to move the image. (Henderson at col. 1, lines 62-66). Henderson does not disclose, motivate, teach, or suggest the need for or any benefit of utilizing a "display drive circuitry coupled to the graphics engine." Henderson only discloses the use of an analog scheme for providing a triangular wave form to move the image. (Henderson at col. 1, lines 62-66).

Henderson does not disclose, motivate, teach, or suggest the need for or any benefit of utilizing the image origin to move the image and altering the control data according to a specific

process. Henderson only discloses the use of an arbitrary position that is not adjusted by using control data. (Henderson at col. 3, lines 26-28).

As stated by the Examiner, Henderson does not disclose, motivate, teach, or suggest "a field display matrix." See Office Action page 7. Henderson only discloses the use of a cathode ray tube. (Henderson Abstract).

Cappels does not motivate, teach, or suggest the need for or any benefit of "a matrix addressed emissive display device" comprising "a matrix of individually addressable emissive display elements; a graphics engine adapted to generate control data corresponding to a static image to be displayed on the matrix; display drive circuitry coupled to the graphics engine and adapted to generate drive signals as a function of the control data, the drive signals being provided to the matrix to thereby energize the corresponding emissive display elements of the matrix in order to display the static image on the matrix" wherein the graphics engine continuously "alters the control data" to move the static image on the matrix, and wherein "the matrix is a field effect display matrix," as recited in claim 11.

Cappels does not disclose, motivate, teach, or suggest the need for or any benefit of the use of a system to **minimize luminance decay** in emissive elements in a matrix addressed emissive display device. Cappels only discloses a system for **compensating** for **detrimental effects relating to color accuracy**. (Cappels, col. 1, lines 20-22). Cappels only discloses the use of "corrected tristimulus values" to determine the "amount of beam current necessary to compensate for color degradation of the cathode ray tube." (Cappels Abstract). Whereas, claim 11 relates to **reducing** the **decay rate of emissive elements**, which is different from **compensating for detrimental effects relating to color accuracy**.

Cappels does not disclose, motivate, teach, or suggest the need for or any benefit of the using control data to move the static image on the matrix. Cappels only discloses the use of

correction factors necessary to compensate for color degradation of the cathode ray tube. (Cappels Abstract). Cappels does not disclose, motivate, teach, or suggest the need for or any benefit of utilizing the image origin to move the image and altering the control data according to a specific process.

As stated by the Examiner, Cappels does not disclose, motivate, teach, or suggest "a field display matrix." See Office Action page 7.

Marflak does not motivate, teach, or suggest the need for or any benefit of "a matrix addressed emissive display device" comprising "a matrix of individually addressable emissive display elements; a graphics engine adapted to generate control data corresponding to a static image to be displayed on the matrix; display drive circuitry coupled to the graphics engine and adapted to generate drive signals as a function of the control data, the drive signals being provided to the matrix to thereby energize the corresponding emissive display elements of the matrix in order to display the static image on the matrix" wherein the graphics engine continuously "alters the control data" to move the static image on the matrix, and wherein "the matrix is a field effect display matrix," as recited in claim 11.

Marflak does not disclose, motivate, teach, or suggest the need for or any benefit of using a field effect display matrix. A field effect display matrix is a numerical display device in which a liquid-crystal cell is sandwiched between polarizers. The liquid-crystal cell is treated so that it normally rotates light 90°, but ceases to rotate light when an electric field is applied to it, altering the transmission of the device. The Examiner stated "Marflak teaches a flat cathode ray tube 308 (see fig. 3) corresponding to a field effect display matrix. See Office Action page 7. However, Appellants have reviewed Marflak and **are unable to determine where Marflak discloses a field effect display matrix**. Marflak only discloses a "CRT display system." (Marflak at col. 4, line 28).

Appellants respectfully submit that there is no motivation, teaching, or suggestion to combine the references in the manner asserted in the Office Action because Henderson in combination with Cappels and/or Marflak does not disclose, teach or suggest using "a matrix addressed emissive display device" comprising "a matrix of individually addressable emissive display elements; a graphics engine adapted to generate control data corresponding to a static image to be displayed on the matrix; display drive circuitry coupled to the graphics engine and adapted to generate drive signals as a function of the control data, the drive signals being provided to the matrix to thereby energize the corresponding emissive display elements of the matrix in order to display the static image on the matrix" wherein the graphics engine continuously "alters the control data" to move the static image on the matrix, and wherein "the matrix is a field effect display matrix," as recited in claim 11.

Appellants respectfully submit that the subject matter recited in dependent claim 11, considered as a whole, would not have been obvious to a person of skill in the art and is patentable. Accordingly, Appellants request withdrawal of the rejection of the claim under 35 U.S.C. § 103(a).

C. DEPENDENT CLAIM 18

Henderson relates to a system that minimizes "a permanent and highly undesirable 'scar' along which the phosphorescent coating is damaged" in a cathode ray tube (CRT). (Henderson at col. 1, lines 29-31). Cappels relates to a system that "calculate[s] the amount of beam current necessary to compensate for color degradation of the cathode ray tube." (Cappels Abstract). Marflak relates to a system that "display[s] a 16:9 aspect ratio signal on a 4:3 aspect ratio television." (Marflak at col. 3, lines 49-50).

Henderson does not motivate, teach, or suggest the need for or any benefit of "a matrix addressed emissive display device" comprising "a matrix of individually addressable emissive display elements; graphics means for controlling the matrix to display a static image on the

matrix" wherein the graphics means "substantially continuously move[s] the static image on the matrix in a manner which is substantially undetectable to viewers of the display device," wherein the graphic means "includes a graphic engine means for generating control data associated with the static image, the image having an image origin and wherein the graphics means includes a display driver means for driving the display elements in response to the graphic engine means, wherein the graphic engine means redefines the image origin to move the static image" and wherein "the matrix is a field effect display matrix," as recited in claim 18.

Henderson does not disclose, motivate, teach, or suggest the need for or any benefit of the use of a device to reduce luminance **decay**. Henderson only discloses a device that **prevents rapid damage** to the phosphorescent coating of a cathode ray tube. (Henderson at col. 1, lines 29-32). The device disclosed in Henderson relates to preventing the phosphorescent coating on a cathode ray tube from being **rapidly removed**. (Henderson at col. 1, lines 19-26). Whereas, claim 18 relates to reducing the **decay rate** of emissive elements (e.g., light emitting diode). In Henderson, the phosphorescent coating is rapidly removed or "burn in" by extensive electron beam bombardment. (Henderson at col. 1, lines 19-21). This electron beam bombardment can **damage** the cathode ray tube's phosphorescent coating in a **short time interval**. Whereas, claim 18 relates to reducing the **decay rate**, which is the process of **gradually over an extended time interval** becoming inferior.

As stated by the Examiner, Henderson does not disclose a device "for a CRT [cathode ray tube] comprising: a graphic engine or processor generating/altering control data." See Office Action at page 5. Henderson does not disclose a graphic engine. Henderson only discloses the use of an analog scheme for providing a triangular wave form to move the image. (Henderson at col. 1, lines 62-66). Henderson does not disclose, motivate, teach, or suggest the need for or any benefit of utilizing a "display drive means for driving the display elements in response to the graphic engine means." Henderson only discloses the use of an analog scheme for providing a triangular wave form to move the image. (Henderson at col. 1, lines 62-66).

Henderson does not disclose, motivate, teach, or suggest the need for or any benefit of utilizing the image origin to move the image and altering the control data according to a specific process. Henderson only discloses the use of an arbitrary position that is not adjusted by using control data. (Henderson at col. 3, lines 26-28).

As stated by the Examiner, Henderson does not disclose, motivate, teach, or suggest "a field display matrix." See Office Action page 7. Henderson only discloses the use of a cathode ray tube. (Henderson Abstract).

Cappels does not motivate, teach, or suggest the need for or any benefit of "a matrix addressed emissive display device" comprising "a matrix of individually addressable emissive display elements; graphics means for controlling the matrix to display a static image on the matrix" wherein the graphics means "substantially continuously move[s] the static image on the matrix in a manner which is substantially undetectable to viewers of the display device," wherein the graphic means "includes a graphic engine means for generating control data associated with the static image, the image having an image origin and wherein the graphics means includes a display driver means for driving the display elements in response to the graphic engine means, wherein the graphic engine means redefines the image origin to move the static image" and wherein "the matrix is a field effect display matrix," as recited in claim 18.

Cappels does not disclose, motivate, teach, or suggest the need for or any benefit of the use of a system to **minimize luminance decay** in emissive elements in a matrix addressed emissive display device. Cappels only discloses a system for **compensating** for **detrimental effects relating to color accuracy**. (Cappels, col. 1, lines 20-22). Cappels only discloses the use of "corrected tristimulus values" to determine the "amount of beam current necessary to compensate for color degradation of the cathode ray tube." (Cappels Abstract). Whereas, claim 18 relates to **reducing** the **decay rate of emissive elements**, which is different from **compensating for detrimental effects relating to color accuracy**.

Cappels does not disclose, motivate, teach, or suggest the need for or any benefit of the using control data to move the static image on the matrix. Cappels only discloses the use of correction factors necessary to compensate for color degradation of the cathode ray tube. (Cappels Abstract). Cappels does not disclose, motivate, teach, or suggest the need for or any benefit of utilizing the image origin to move the image and altering the control data according to a specific process.

As stated by the Examiner, Cappels does not disclose, motivate, teach, or suggest "a field display matrix." See Office Action page 7.

Marflak does not motivate, teach, or suggest the need for or any benefit of "a matrix addressed emissive display device" comprising "a matrix of individually addressable emissive display elements; graphics means for controlling the matrix to display a static image on the matrix" wherein the graphics means "substantially continuously move[s] the static image on the matrix in a manner which is substantially undetectable to viewers of the display device," wherein the graphic means "includes a graphic engine means for generating control data associated with the static image, the image having an image origin and wherein the graphics means includes a display driver means for driving the display elements in response to the graphic engine means, wherein the graphic engine means redefines the image origin to move the static image" and wherein "the matrix is a field effect display matrix," as recited in claim 18.

Marflak does not disclose, motivate, teach, or suggest the need for or any benefit of using a field effect display matrix. A field effect display matrix is a numerical display device in which a liquid-crystal cell is sandwiched between polarizers. The liquid-crystal cell is treated so that it normally rotates light 90°, but ceases to rotate light when an electric field is applied to it, altering the transmission of the device. The Examiner stated "Marflak teaches a flat cathode ray tube 308 (see fig. 3) corresponding to a field effect display matrix. See Office Action page 7. However, Appellants have reviewed Marflak and **are unable to determine where Marflak discloses a**

field effect display matrix. Marflak only discloses a "CRT display system." (Marflak at col. 4, line 28).

Appellants respectfully submit that there is no motivation, teaching, or suggestion to combine the references in the manner asserted in the Office Action because Henderson in combination with Cappels and/or Marflak does not disclose, teach or suggest using "a matrix addressed emissive display device" comprising "a matrix of individually addressable emissive display elements; graphics means for controlling the matrix to display a static image on the matrix" wherein the graphics means "substantially continuously move[s] the static image on the matrix in a manner which is substantially undetectable to viewers of the display device," wherein the graphic means "includes a graphic engine means for generating control data associated with the static image, the image having an image origin and wherein the graphics means includes a display driver means for driving the display elements in response to the graphic engine means, wherein the graphic engine means redefines the image origin to move the static image" and wherein "the matrix is a field effect display matrix," as recited in claim 18.

Appellants respectfully submit that the subject matter recited in dependent claim 18, would not have been obvious to a person of skill in the art and is patentable. Accordingly, Appellants request withdrawal of the rejection of the claim under 35 U.S.C. § 103(a).

VI. CONCLUSION

In view of the foregoing, Appellants submit that claims 1-20 are not properly rejected as being unpatentable under 35 U.S.C. § 103(a). Accordingly, Appellants respectfully request that the Board reverse the claim rejections and order that a Notice of Allowance respecting all pending claims be issued.

Respectfully submitted,

Date October 20, 2006

By Kyle Eppele

ROCKWELL COLLINS, INC.
400 Collins Road, NE
Cedar Rapids, IA 52498
Telephone: (319) 295-8280
Facsimile: (414) 295-8777
Customer No. 26383

Kyle Eppele
Attorney for Appellant
Registration No. 34,155

CLAIMS APPENDIX

1. A method of reducing luminance decay of emissive elements in a matrix addressed emissive display device, the method comprising:

generating in a graphics engine control data corresponding to a static image to be displayed and generating drive signals as a function of the control data in a drive circuit, wherein the control data defines an image origin of the static image with respect to a display origin;

providing the drive signals to the matrix to thereby energize the corresponding emissive display elements of the matrix in order to display the static image on the matrix; and

altering in the graphics engine the control data, substantially continuously, such that the drive signals are substantially continuously altered to thereby substantially continuously move the static image on the matrix in a manner which is substantially undetectable to viewers of the display device, wherein the control data is altered by redefining the image origin of the static image with respect to the display origin.

2. The method of claim 1, wherein providing the drive signals to the matrix further comprises providing the drive signals to a matrix of light emitting diodes to thereby energize corresponding light emitting diodes of the matrix in order to display the static image on the matrix.

3. The method of claim 1, wherein providing the drive signals to the matrix further comprises providing the drive signals to a plasma display matrix in order to display the static image on the matrix.

4. The method of claim 1, wherein providing the drive signals to the matrix further comprises providing the drive signals to a field effect display matrix in order to display the static image on the matrix.

5. The method of claim 1, wherein generating control data corresponding to the static image to be displayed on the matrix of individually addressable emissive display elements further comprises:

defining the image origin for the static image;

assigning the image origin for the static image to an emissive display element in the matrix; and

generating the control data for each emissive display element in the matrix based upon its respective position relative to the emissive display element to which the image origin has been assigned.

6. The method of claim 5, wherein assigning the image origin further comprises initially assigning the image origin for the static image to the display origin.

7. The method of claim 6, wherein altering the control data further comprises reassigning the image origin for the static image to a different emissive display element in the matrix such that the image origin moves relative to the display origin.

8. A matrix addressed emissive display device, comprising:

a matrix of individually addressable emissive display elements;

a graphics engine adapted to generate control data corresponding to a static image to be displayed on the matrix;

display drive circuitry coupled to the graphics engine and adapted to generate drive signals as a function of the control data, the drive signals being provided to the matrix to thereby energize the corresponding emissive display elements of the matrix in order to display the static image on the matrix; and

wherein the graphics engine alters the control data, substantially continuously, such that the drive signals are substantially continuously altered to thereby substantially continuously move the static image on the matrix in a manner which is substantially undetectable to viewers of the display device.

9. The matrix addressed emissive display device of claim 8, wherein the matrix is a matrix of light emitting diodes.

10. The matrix addressed emissive display device of claim 8, wherein the matrix is a plasma display matrix.

11. The matrix addressed emissive display device of claim 8, wherein the matrix is a field effect display matrix.

12. The matrix addressed emissive display device of claim 8, wherein the graphics engine is adapted to define an image origin for the static image and to assign the image origin for the static image to an emissive display element in the matrix, the graphics engine is further adapted to generate control data for each emissive display element in the matrix based upon its respective position relative to the emissive display element to which the image origin has been assigned.

13. The matrix addressed emissive display device of claim 12, wherein the graphics engine is adapted to initially assign the image origin for the static image to a display origin.

14. The matrix addressed emissive display device of claim 13, wherein the graphics engine is further adapted to alter the control data to substantially continuously move the static image on the matrix by substantially continuously reassigning the image origin for the static image to a different emissive display element in the matrix such that the image origin moves relative to the display origin.

15. A matrix addressed emissive display device, comprising:

a matrix of individually addressable emissive display elements; and

graphics means for controlling the matrix to display a static image on the matrix and to substantially continuously move the static image on the matrix in a manner which is substantially undetectable to viewers of the display device, wherein the graphic means includes a graphic engine means for generating control data associated with the static image, the image having an image origin and wherein the graphics means includes a display driver means for driving the display elements in response to the graphic engine means, wherein the graphic engine means redefines the image origin to move the static image.

16. The matrix addressed emissive display device of claim 15, wherein the matrix is a matrix of light emitting diodes.

17. The matrix addressed emissive display device of claim 15, wherein the matrix is a plasma display matrix.

18. The matrix addressed emissive display device of claim 15, wherein the matrix is a field effect display matrix.

19. The matrix addressed emissive display device of claim 15, wherein the graphics means is adapted to define the image origin for the static image and to assign the image origin for the static image to an emissive display element in the matrix, the graphics means further adapted to generate control data for each emissive display element in the matrix based upon its respective position relative to the emissive display element to which the image origin has been assigned.

20. The matrix addressed emissive display device of claim 19, wherein the graphics means is adapted to initially assign the image origin for the static image to a display origin and wherein the graphics means is further adapted to alter the control data to substantially continuously move the static image on the matrix by substantially continuously reassigning the image origin for the static image to a different emissive display element in the matrix such that the image origin moves relative to the display origin.

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.